

DRILL HOLES

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BORDER REV: DATE: June 1, 2004

PROJECT DESCRIPTION

I. GENERAL

This project involves the modification of an existing Traffic Control Signal with street lighting at the intersection of MD 28 (W Montgomery Ave) and I-270 Off Ramp / Nelson St in Montgomery County. Countdown pedestrian signals with audible pushbuttons shall be installed at this location. Additionally, LED traffic signal heads shall be installed for the I-270 Off Ramp approach. MD 28 (W Montgomery Ave) is assumed to run an east-west direction.

II. INTERSECTION OPERATION

- The Intersection shall continue to operate in a NEMA five-phase, fully-actuated mode, with the MD 28 (W Montgomery Ave) approaches running concurrently. The Exclusive/Permissive left turn phase for the eastbound approach of MD 28 (W Montgomery Ave) shall remain in operation. The pedestrian phase across the east leg of MD 28 (W Montgomery Ave) shall now be a Countdown pedestrian phase with audible pushbutton actuation. The pedestrian phase on recall across Nelson Street shall now be a Countdown pedestrian phase with audible pushbuttons. The I-270 Off Ramp / Nelson St approaches shall also continue to run as a side street split phase. The existing right turn overlap phase for the Nelson Street approach shall remain in operation.
- The existing full-traffic-actuated, eight-phase controller with video interface and 4-channel detector rack and all necessary equipment housed in a NEMA size "6" base-mounted cabinet shall be utilized at this intersection.
- Montgomery County signal shop shall install APS control unit into controller cabinet. The Contractor shall deliver the Control Unit and audible pushbuttons to the Montgomery County Signal Shop for testing and programming.

III. SPECIAL NOTES

- The Contractor shall be responsible for terminating all signal cables, to the appropriate terminals and shall properly label each cable.
- All controller cabinet wiring will be performed by the Montgomery County Forces. Contact Mr. Kamal Hamud at (240) 777-8761 seventy-two hours in advance of intended work.
- All underground and overhead utilities shown on these plans are schematic only and may not be complete. The Contractor shall be responsible for notifying Miss Utility prior to construction so that all utilities may be located in the field. If the Contractor perceives that a conflict between the utilities and the traffic signal will occur, the Contractor shall notify the Project Engineer immediately so that the conflict may be resolved.

4. APS will function as follows:

FOR NELSON STREET

- When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross Nelson Street."
- When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

FOR WEST MONTGOMERY AVENUE

- When pedestrian locates and presses pushbutton for an extended time, the pushbutton unit will be "Wait to cross West Montgomery Avenue."
- When WALK phase begins, the message will be a rapid tick which will last for the duration of the WALK phase.

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY S.H.A..

ITEM NO.	DESCRIPTION	QUANTITY
9571	Sheet aluminum signs to consist of: (pole mount) Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS W MONTGOMERY AVE") Pedestrian education R10-3(1) sign. (Note: Sign to read "PUSHBUTTON TO CROSS NELSON STREET")	5 SF 3 EA 2 EA

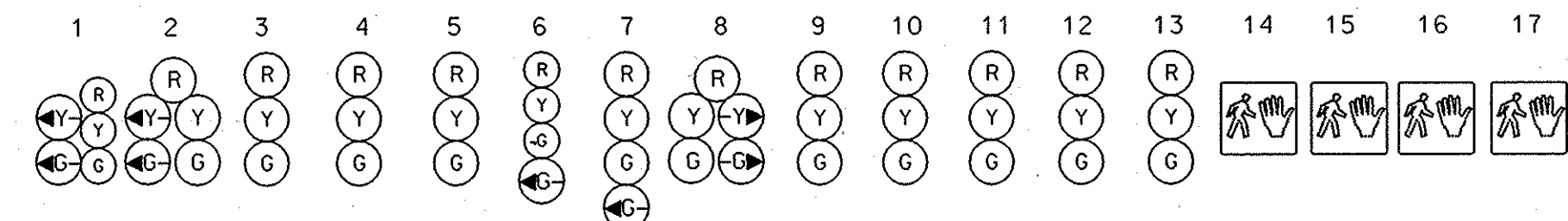
B. EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR

ITEM NO.	DESCRIPTION	QUANTITY
1001	Maintenance of traffic per assignment.	1 EA
2002	Test Pit Excavation	3 C.Y.
6001	Standard type A combination curb and gutter 12" gutter pan 8" depth.	70 L.F.
6002	4" concrete sidewalk.	530 S.F.
8001	12" LED (R,Y,G) signal head section.	9 EA
8003	2 wire Central Control unit	1 EA
8010	Audible/tactile pedestrian pushbutton station & signs.	5 EA
8011	Breakaway Pedestal pole (10').	3 EA
8014	LED 16" countdown pedestrian signal head.	4 EA
8017	Remove and dispose of existing equipment per assignment.	1 EA
8026	Schedule 80 rigid PVC conduit up to 4" - trench.	40 L.F.
8027	Detectable warning surfaces	120 S.F.
8030	Concrete for signal foundation.	2.1 CY
8033	No. 6 AWG stranded bare copper ground wire.	55 L.F.
8046	Install overhead sign.	5 SF
8058	Electrical cable - 2 conductor (No. 14 AWG).	735 L.F.
8060	Electrical cable - 5 conductor (No. 14 AWG).	1045 L.F.
8061	Electrical cable - 7 conductor (No. 14 AWG).	265 L.F.

C. EQUIPMENT TO BE REMOVED

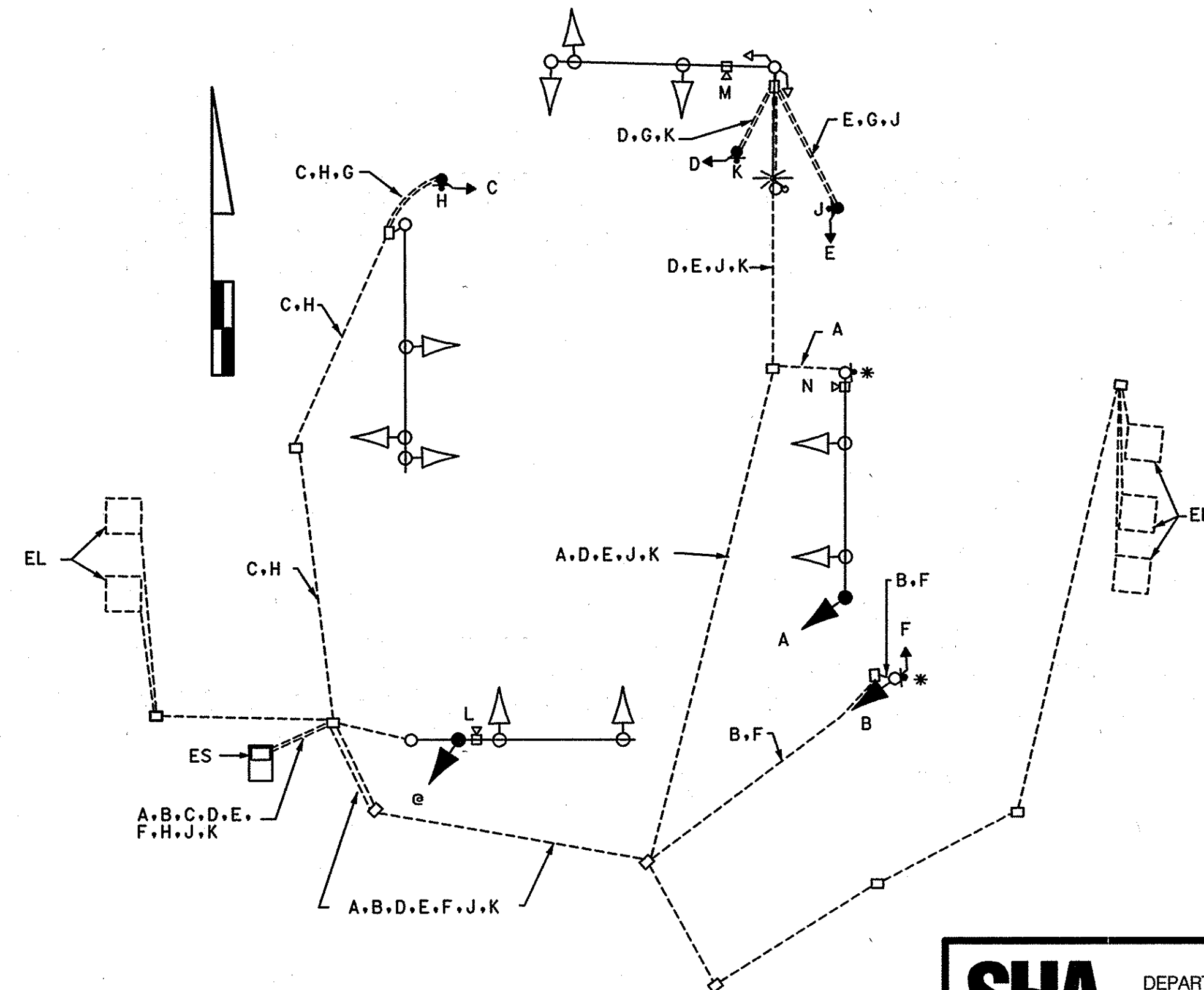
All removed signal materials are to become property of the Contractor.

PHASE CHART



PHASE 1 & 6	←G-←G	←G-←G	G	R	R	R	R	R/-G	R	R	R	R	R	R	DW	DW	DW	DW	↑
1 & 6 CHANGE	←Y-←G	←Y-←G	G	R	R	R	R	R/-Y	R	R	R	R	R	R	DW	DW	DW	DW	↑
PHASE 2 & 6	G	G	G	G	G	R	R	R	R	R	R	R	R	R	WK	WK	DW	DW	↑
PED CLEAR / COUNTDOWN	G	G	G	G	G	R	R	R	R	R	R	R	R	R	FL/DW	FL/DW	DW	DW	↑
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	↑
PHASE 3	R	R	R	R	R	R	R	R/-G	G	G	G	G	G	G	DW	DW	DW	DW	↑
3 CHANGE	R	R	R	R	R	R	R	R/-Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	↑
PHASE 4	R	R	R	R	R	←G-←G	←G-←G	G	R	R	R	R	R	R	DW	DW	DW	DW	↑
4 CHANGE	R	R	R	R	R	Y	Y	Y	R	R	R	R	R	R	DW	DW	DW	DW	↑
PHASE 3 ALT	R	R	R	R	R	R	R	R/-G	G	G	G	G	G	G	DW	DW	WK	WK	↑
PED CLEAR / COUNTDOWN	R	R	R	R	R	R	R	R/-G	G	G	G	G	G	G	DW	DW	FL/DW	FL/DW	↑
3 ALT CHANGE	R	R	R	R	R	R	R	R/-Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	↑
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	↑

WIRING DIAGRAM



WIRING KEY	
A - 7-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	
B - 5-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	
G - STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)	
H - 2-CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)	
L - EXISTING VIDEO CAMERA CABLE	
* - USE EXISTING CABLE FOR AUDIBLE PUSHBUTTON	
@ - USE EXISTING CABLE FOR SIGNAL HEAD	
EL - LOOP WIRE (NO. 14 A.W.G.) EXISTING	
ES - EXISTING SERVICE TO BE MAINTAINED BY PEPCO	

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 28 (W. MONTGOMERY AVE)
AT NELSON ST/I-270 NB OFF RAMP
ROCKVILLE, MARYLAND

GENERAL INFORMATION SHEET

SCALE NONE DATE 5/14/07 CONTRACT NO. AT9255185

DESIGNED BY J.W.A. COUNTY MONTGOMERY
DRAWN BY R.C. LOGMILE 15002820.97
CHECKED BY TMS NO. H973
F.A.P. NO. TOD NO.

TS NO. 244G DRAWING NO. 2 OF 2 SHEET NO. OF



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